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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/795,814	03/08/2004	Martin Richardson	UCF-306DIV	2763
23717	7590	07/23/2004	EXAMINER	
LAW OFFICES OF BRIAN S STEINBERGER 101 BREVARD AVENUE COCOA, FL 32922			THOMAS, COURTNEY D	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/795,814

Applicant(s)

RICHARDSON, MARTIN

Examiner

Courtney Thomas

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-38 is/are allowed.
- 6) ☒ Claim(s) 39 and 41-47 is/are rejected.
- 7) ☒ Claim(s) 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claim 39 is objected to because of the following informalities:

Claims 39, line 6 recites: "... a focusing device in fixed relation to *the target chamber* (emphasis added) ..." Examiner notes there is no antecedent basis for the use of this term. Appropriate correction is required.

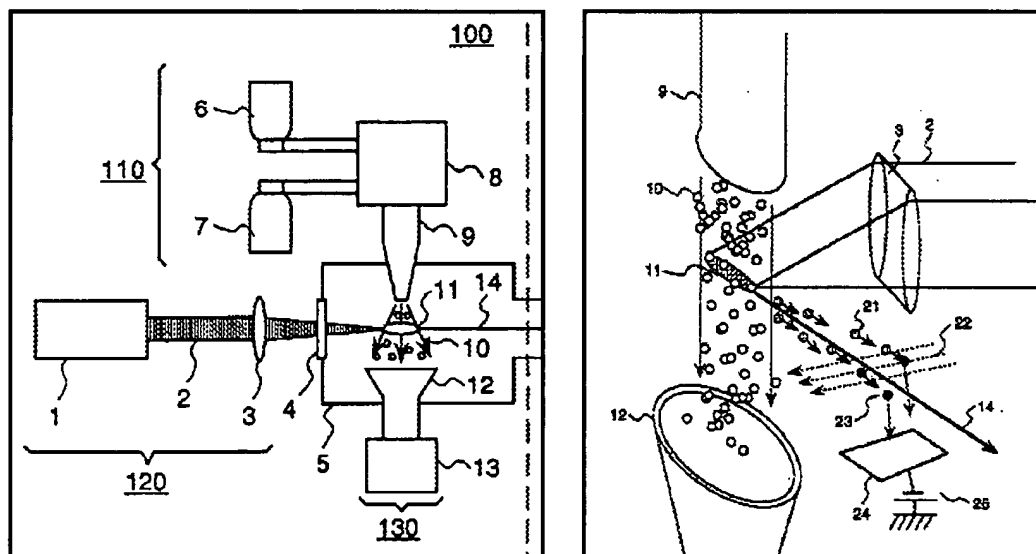
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 39 and 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsui et al. (U.S. Patent 5,991,360).

3.



Figures 1 and 5 – U.S. Patent 5,991,360 to Matsui et al

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4. As per claim 39, Matsui et al. disclose a system for producing short-wavelength electromagnetic emissions comprising: a vacuum chamber (5), a target dispenser (9) and a focusing device (3) operable to focus a high-energy source onto a target zone. Matsui et al. do not explicitly disclose that the target dispenser is configured to dispense targets comprising a metallic compound solution into a target zone, wherein the metallic compound solution comprises a metallic suspension having nano-sized particles.

5. Matsui et al. teach however, the dispensing of fine solid or liquid targets (10) for irradiation by a laser beam for the generation of short-wavelength electromagnetic emissions (see Fig. 5 above; column 5, lines 35-47).

6. It would have been obvious to one of ordinary skill to modify the apparatus of Matsui et al. such that it dispensed any suitable solid or liquid target for the production of short-wavelength electromagnetic emissions, including metallic compound solutions having a metallic suspension of nano-sized particles. One would have been motivated to make such a modification for the purpose of reducing debris resulting from the ablation of target material as suggested by Matsui et al. (column 1, lines 40-60).

7. As per claims 41-47, Matsui et al. disclose a system as modified above and further comprising: a cryogenic trap (130); a collector mirror (15); wherein the high energy source is a laser (1), the average target size is in the range of about 10 -100 μm , the laser is configured to produce a laser beam having a diameter in the target zone substantially identical to the average target size (column 6, lines 30-37) and the system is operable to provide targets in liquid form (column 5, lines 35-47).

Allowable Subject Matter

8. Claim 40 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. As per claim 40, the examiner found no reference in the prior art that disclosed a system for producing short-wavelength electromagnetic emissions further comprising a precision adjustment unit coupled with the target dispenser, wherein the precision adjustment unit is operable to adjust a position of the target zone in three orthogonal directions.

10. Claims 19 - 38 are allowed.

11. The following is a statement of reasons for the indication of allowable subject matter:

12. **As per claim 19 and dependent claims 20-38**, the examiner found no reference in the prior art that disclosed or made obvious a method for producing short-wavelength electromagnetic emissions comprising the step of providing a target comprising a metallic compound solution in a target zone, wherein the metallic compound solution comprises a metallic suspension having nano-size particles as recited in independent claim 19.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Courtney Thomas whose telephone number is (571) 272-2496. The examiner can normally be reached on M - F (9 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CT
Courtney Thomas


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER